

CLAIMS

What is claimed is:

1. A method for constructing MPEG I-frames comprising the steps of:
 - 2 a) configuring a JPEG engine to produce byte-aligned JPEG data; and
 - 4 b) performing JPEG processing, using the JPEG engine, on an uncompressed digital image, producing byte-aligned data; and
 - 6 c) reading the byte-aligned JPEG data; and
 - d) converting the JPEG data to MPEG data.
2. The method of claim 1, further comprising the step of storing the MPEG data in an MPEG file.
2. The method of claim 2, further comprising the step of adding file header information to the MPEG file.
4. The method of claim 1 wherein the step of configuring the JPEG engine is accomplished by specifying table generating values that are used by the JPEG engine to generate Huffman code tables.
5. The method of claim 1, further comprising the steps of:
 - 2 a) providing conversion tables for converting byte-aligned JPEG data to MPEG data; and
 - 4 b) performing the step of converting the JPEG data to MPEG data using the conversion tables.

6. A digital imaging device comprising:

- a) a lens for focusing light; and
- b) an electronic array light sensor for receiving the focused light from the lens; and
- c) a logic unit for controlling the camera and receiving image information from the electronic array light sensor, the logic unit comprising a microprocessor system and a JPEG engine, the logic unit adapted to
 - i. configure the JPEG engine to produce a byte-aligned data stream; and
 - ii. convert the byte-aligned JPEG data stream to an MPEG data stream representing an MPEG I-frame.

7. The digital imaging device of claim 6 wherein the digital imaging device is a camera.

8. An image compression system comprising:

- a) means for obtaining an uncompressed digital image; and
- b) means for performing JPEG image processing; and
- c) means for configuring the JPEG processing means to produce a byte-aligned data stream; and
- d) means for converting the byte-aligned JPEG data stream to a data stream representing an MPEG I-frame.

9. A table of byte-aligned codes for JPEG DC coefficients, the table comprising Huffman codes, each Huffman code having a following bit pattern, the combined

lengths of each Huffman code and corresponding following bit pattern being an
4 integer multiple of 8 bits.

10. The table of claim 9, the table comprising nine Huffman codes having lengths of
2 1, 2, 3, 4, 5, 6, 7, 8 and 8 bits, followed by bit patterns of 7, 6, 5, 4, 3, 2, 1, 0, and
8 bits respectively.

11. A table of byte-aligned codes for JPEG AC coefficients, the table comprising
2 Huffman codes, each Huffman code having a following bit pattern, the combined
lengths of each Huffman code and corresponding following bit pattern being an
4 integer multiple of 8 bits.

12. The table of claim 11, the table comprising 130 Huffman codes allocated as
2 sixteen Huffman codes of each length 8, 9, 10, 11, 12, 13, 14, and 15 bits and two
codes of length 16 bits, each code followed by a following bit pattern such that
4 each Huffman code and its following bits consist of 16 total bits.

13. A lookup table that correlates byte-aligned JPEG DC coefficient codes and
2 following bits with equivalent MPEG DC coefficient codes and following bits.

14. A lookup table that correlates byte-aligned JPEG AC coefficient codes and
2 following bits with equivalent MPEG AC coefficient codes.